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BAQ Engineering Services Division

Company Name: Michelin North America, Inc. – Spartanburg Facility (US3)
Permit Number: TV-2060-0065

Permit Writer: Susan Peterson
Date: DATE

DATE APPLICATION RECEIVED: September 24, 2014

FACILITY DESCRIPTION

The facility manufactures heavy duty truck tires components and then assembles the tires from the components (facility built in 1978/1979). The facility extrudes and calendars the rubber to produce components. Then the components (rubber components and wire) are assembled in a two-step process. The first step is building the tire carcass. The second step is to form a green tire. Solvents are applied during the assembly to promote adhesion. This binds the components until the tire is chemically bonded by vulcanization in the curing process. The tire is sprayed with an anti-stick agent before it is cured (bottleneck at the facility). After curing, the tire is run through quality assurance. Then the finished tire is stored for shipment.

PROJECT DESCRIPTION

Renew operating permit that was issued February 22, 2010 and expired March 31, 2015.

CHANGES SINCE LAST OP ISSUANCE

- 1) Construction Permit 2060-0065-CV was issued on November 21, 2014 for the construction of a Metallic Tissue process, known to Michelin US3 as Project Journal.
 - a. DHEC received a Start of Construction Notification for this process (Form 2572) on November 16, 2015.
 - b. The Metallic Tissue process will be added to the TV permit as Unit ID 09.
- 2) The TV operating permit was modified in October 2010 to account for the installation of equipment listed in construction permit 2060-0065-CU and in September 2012 to account for a change in the Environmental Contact.
- 3) PSD construction permit 2060-0065-CU established BACT for W Tire Builders (Michelin A, B, and C operations) as a heptane usage limit per tire of 470 ml/tire. Yet the TV operating permit TV-2060-0065 (Condition 02.3) mistakenly omitted a recordkeeping requirement. The renewal TV Permit will require Michelin US3 to submit a semiannual report. The report shall include the amount of heptane used and the number of tires manufactured each month.
- 4) The table listing equipment for ID 01 Rubber Preparation will not include BD16 since it was never constructed.
- 5) Certain equipment/Lines (see Unit ID 01, 02, and 04) are subject to NSPS Subpart BBB but only when running tires that have a bead diameter less than or equal to 0.5 meter (19.7 inches) and a cross section dimension less than or equal to 0.325 meter (12.8 inches). Michelin manufactures tires with a bead diameter greater than 19.7 inches 99% of the time. For that reason, the wording of the permit conditions has been modified to clarify that the NSPS Subpart BBB conditions apply only when running tires that have a bead diameter less than or equal to 0.5 meter (19.7 inches) and a cross section dimension less than or equal to 0.325 meter (12.8 inches). This makes it easier for both the DHEC inspector and Michelin plant manager during facility inspections.
- 6) Permit template language for Emergency Generators (NESHAP Subpart ZZZZ) has been added.
- 7) Permit template language for Commercial, And Institutional Boilers and Process Heaters (NESHAP Subpart DDDDD) has been added.
- 8) Permit Condition C.17 is new. It pertains to construction permit CO.r1 (issued November 23, 2015) which imposes a federally enforceable limit of < 40 tpy VOC for the Tire Curing process.
- 9) The Rubber Preparation, Tire Building, Green Tire Spraying, Tire Curing, and Metallic Tissue are subject to a Standard 4 opacity limit of 20%. This renewal TV permit will not require the facility to conduct visual inspections. No opacity is expected since the processes use a heptane-like solvent, which does not result in opacity.

SOURCE TEST REQUIREMENTS

BD17 undertread cementer is subject to SC Regulation 61-62.5, Standard No. 7, Prevention of Significant Deterioration. BACT has been determined to be a localized capture and control by Boilers B1, B2, and B3 that achieves an average capture of 85% and an average 98% or greater destruction of VOC emissions.

Destruction efficiency testing:

The owner/operator shall conduct destruction efficiency testing on Boilers B1, B2, and B3. The owner/operator shall test a single boiler (B1, B2, or B3) on a biennial basis, ensuring that each boiler is tested at least once every 6 years. In the event that the owner/operator makes physical changes to the boilers, or adds new process emissions to the boilers that are not referenced in the current operating permit, the testing schedule and parameters shall be re-evaluated and modified if deemed necessary by Source Testing personnel.



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This is an example of the testing schedule:

2016: Boiler B1
 2018: Boiler B2
 2020: Boiler B3
 2022: Boiler B1

Capture efficiency testing:

The owner/operator shall conduct capture efficiency testing on an annual basis provided that there are no physical changes made to the capture systems and that no new process emissions are added to the capture system which are not referenced in the current operating permit to demonstrate capture efficiencies.

As an alternative to annual capture testing, the facility may perform capture testing once every five years, if the owner/operator operates and maintains anemometers or some comparable device to monitor the capture system operations for any system capturing VOC.

EMISSIONS

FACILITY WIDE EMISSIONS		
Pollutant	Uncontrolled Emissions	Controlled/Limited Emissions
	TPY	TPY
PM	46.9	46.8
PM ₁₀	39.1	39.1
PM _{2.5}	26.2	26.1
NO _x	136.5	N/A
SO ₂	493.0	N/A
CO	54.6	N/A
CO ₂ mass	108,891.3	N/A
CO ₂ e	109,257.9	N/A
VOC	737.3	706.4
HAP	33.2	N/A

Note: Michelin uses the amount of rubber used per year (confidential lb/yr) in conjunction with the emission factors from EPA's AP-42, Revised Factors Section 4.12, Extruder to compute the PM, VOC, and HAP emissions. Section 4.12 calendar to compute VOC and HAP emissions, 4.12 Warm Up Milling to compute VOC and HAP emissions.

Note: These totals are listed in the CO.r1 application, which is the most recent application from US3.

OPERATING PERMIT STATUS

Michelin US3 operates in compliance with its TV permit, which expired on March 31, 2015.

REGULATORY APPLICABILITY REVIEW

Regulation	Comments/Periodic Monitoring Requirements
Section II.E - Synthetic Minor	<u>Applicable</u> 2060-0065-CB was a synthetic minor permit. It contained a fuel oil usage limit and a fuel oil sulfur content limit to avoid triggering PSD review for SO ₂ 2060-0065-CD was essentially a modification of 2060-0065-CB when the 3 rd boiler was installed. 2060-0065-CO-r.1 limited VOC to < 40 tpy.
Standard No. 1	<u>Applicable</u> Boiler 1: 48.1 MM Btu/hr Boiler 2: 48.1 MM Btu/hr



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Regulation	Comments/Periodic Monitoring Requirements
	<p>Boiler 3: 48.9 MM Btu/hr</p> <p>The three boilers have PM (0.6 lbs/MM BTU), SO₂ (2.3 lbs/MM BTU), and Opacity (20%) limits imposed by this standard.</p> <p>Allowable Emissions under Standard 1 are:</p> <p>Boilers 1 and 2 (each)</p> <p>PM = 29.1 lbs/hr</p> <p>SO₂ = 111.55 lbs/hr</p> <p>Boiler 3</p> <p>PM = 29.34 lbs/hr</p> <p>SO₂ = 112.47 lbs/hr</p>
Standard No. 3 (state only)	<p><u>Applicable</u></p> <p>Boilers 1, 2, and 3 are subject to limits because they are controlling VOC emissions from BD17 (undertread cementing). Waste analysis, PM testing, and operator training has been waived due to the nature of emissions being controlled.</p>
Standard No. 4	<p><u>Applicable</u></p> <p>All emission sources, including any fugitives, in this process are subject to 20% opacity limits under this standard. Some of the sources were installed prior to December 31, 1985; however, due to the nature of emissions and since some newer (after 12/31/85) sources exhaust through the same stacks as the older (before 12/31/85) sources, the facility is accepting a 20% limit for all sources. There are particulate matter emissions from the green tire spraying operations; however, there is no stack for particulate emissions. The VOC emissions and the particulate emissions are collected in the basement. Therefore, there has been no PM limit assigned to these operations.</p> <p>In addition, US3 is not required to conduct visual inspections. VOC emissions do not result in any observable opacity.</p>
Standard No. 5	<p><u>Not applicable</u></p> <p>The facility could not run passenger type tire, as defined in Section I, (53), prior to July 1, 1980.</p>
Standard No. 5.2	<p><u>Not applicable.</u></p> <p>The boilers were installed prior to June 25, 2004.</p> <p>The Permit contains a condition stating that “Any existing source where a burner assembly is replaced with another burner assembly after June 25, 2004, regardless of size or age of the burner assembly to be replaced shall be replaced with a low NO_x burner assembly or equivalent technology capable of achieving a 30 percent reduction from uncontrolled NO_x emission levels based upon manufacturer’s specifications.”</p>
Standard No. 7	<p><u>Applicable</u></p> <p>The facility is a major source for PSD (SO₂ and VOC).</p> <p>The facility has PSD limits established under construction permit CU. The limits established for some of the tire builders under construction permit CR have been updated with construction permit CU. CU (issued December 21, 2007) permitted the</p> <ul style="list-style-type: none"> • modification of four (4) existing W1-W4 tire building lines (Michelin A, B, and C), • installation of one (1) new tire building line (W5) (Michelin A, B, C), • installation two new extruders BD16 and BD17 (BD17 with undertread cementing), • installation of one (1) Mars Lite in the tringle process area, • installation of tire curing presses, and miscellaneous small modifications to some of the existing curing presses. <p>In order to comply with BACT for the W Tire Builders (W1-W5), Michelin shall limit the heptane-</p>



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Regulation	Comments/Periodic Monitoring Requirements
	like solvent usage to 470 mls/tire based on a monthly average. This reduced the current X-one limit of 520 ml/tire to 470 ml/tire.
61-62.6	<u>Not applicable</u> No fugitive PM emissions
40 CFR 60 and 61-62.60	<u>Not applicable</u> NSPS Subpart A and Dc Boilers 1 and 2 were installed in 1978 (modified in 1986). Boiler 3 was installed in 1988. <u>Applicable</u> NSPS Subpart BBB Certain undertread cementing operation, green tire spraying, and some of the tire builders are subject to Subpart BBB when running the applicable tires as defined in the subpart. This is: Unit ID 01: Equipment BD3, BD14, and BD17: undertread cementing Unit ID 01: Equipment BD4 and BD15: Michelin B The remaining equipment is not subject either by installation dates or the equipment cannot run the applicable tires as defined in the subpart. <u>Applicable</u> NSPS Subpart IIII – Stationary Compression Ignition Internal Combustion Engines US3 operates emergency fire water pumps that are subject to Subpart IIII
40 CFR 61 and 61-62.61	<u>Not applicable</u> This process/operation does not emit the pollutants subject to this standard (asbestos, benzene, beryllium, coke oven emissions, arsenic, mercury, radionuclide, radon, or vinyl chloride).
40 CFR 63 and 61-62.63	<u>Applicable</u> The facility is subject to the Rubber Tire Manufacturing MACT, Subpart XXXX. Permit template language will be listed in the TV Permit. <u>Applicable</u> The facility has processes that are subject to the Commercial, And Institutional Boilers and Process Heaters MACT, Subpart DDDDD). Boilers B1, B2, and B3 are existing sources and must comply with DDDDD no later than January 31, 2016. Permit template language will be listed in the renewal TV Permit since the effective date of this permit is expected to be April 1, 2016.
61-62.68	<u>Not applicable</u> The facility does not store or use chemicals subject to 112(r) above the threshold quantities.
40 CFR 64	<u>Not applicable</u> The boilers are controlling only 39 TPY of emissions from BD17 which is less than the 100 TPY trigger.

AMBIENT AIR STANDARDS REVIEW

Regulation	Comments/Periodic Monitoring Requirements
Standard No. 2	The facility has shown compliance with NAAQS, per the most recent modeling summary dated November 18, 2014.



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Regulation	Comments/Periodic Monitoring Requirements
Standard No. 7.c	The facility has shown compliance with Standard 7, as shown in the Exempted AAQS Emissions Rates table in the November 18, 2014 modeling summary.
Standard No. 8 (state only)	The facility has shown compliance with Standard 7 Air Toxics, as shown in the November 18, 2014 modeling summary.

PUBLIC NOTICE

This Title V Permit will undergo a 30-day public notice period and a 45-day EPA comment period in accordance with SC Regulation 61-62.1, Section II(N). This permit was placed in *The Herald-Journal* on December 22, 2015. The comment period was open from December 22, 2015 to January 20, 2016 and was placed on the BAQ website during that time period.

ADDITIONAL PUBLIC PARTICIPATION

SUMMARY AND CONCLUSIONS

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.